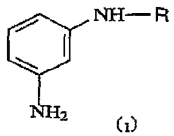
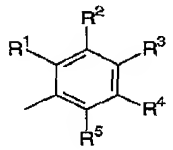
THE CLAIMS

1. (original) A hair dye product comprising a hair dyeing composition and a developer composition, the hair dyeing composition comprising at least one coupler of formula (1):

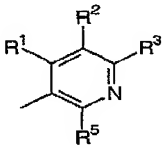


(1)

wherein R is a moiety selected from formulae (2), (3) or (4)



(2)



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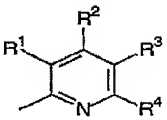
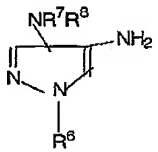


(4)

wherein $R^1$, $R^2$, $R^3$, $R^4$ and $R^5$ are each independently selected from the group consisting of a hydrogen atom, a halogen atom, a hydroxy group, an amino group, a $C_1$-$C_4$ alkyl or haloalkyl group, a $C_1$-$C_4$ alkoxy or haloalkoxy group, and a nitrile group, and at least one primary intermediate of the formula (5)



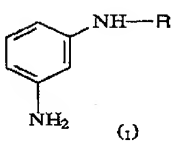
(5)

wherein $R^6$ and $R^7$ are the same or different and are selected from the group consisting of a hydrogen atom, a $C_1$ to $C_4$ alkyl group, a $C_2$ to $C_4$ hydroxyalkyl group, a benzyl group or a phenyl group, and $R^8$ is selected from the group consisting of a hydrogen atom, a $C_1$ to $C_4$ alkyl group, or a $C_2$ to $C_4$ hydroxyalkyl group, or the physiologically tolerated, water-soluble salts thereof.

2. (original) The hair dye product according to Claim 1 wherein the at least one coupler comprises a compound selected from the group consisting of N-phenyl-benzene-1, 3-diamine, 4-methoxyphenyl-(3-amino-phenyl)-amine and 3-methoxyphenyl-(3-amino-phenyl)-amine and the at least one primary intermediate comprises 2-(4, 5-diamino-pyrazol-1-yl)-ethanol.

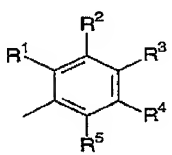
3. (original) The hair dye product according to Claim 1 wherein the at least one coupler comprises a compound of formula (1) wherein R is a moiety of formula (2) and $R^1$, $R^2$, $R^3$, $R^4$ and $R^5$ are each a hydrogen atom, and the at least one primary intermediate comprises 2-(4,5-diaminopyrazol-1-yl)-ethanol.

4. (original) A system for dyeing hair wherein at least one primary intermediate is reacted with at least one coupler in the presence of an oxidizing agent to produce an oxidative hair dye, wherein the at least one coupler comprises a compound of the formula (1):




(1)

wherein R is a moiety selected from formulae (2), (3) or (4)

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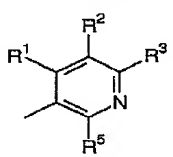
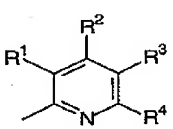
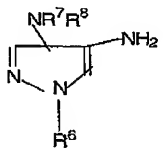



(3)




(4)

wherein $R^1$, $R^2$, $R^3$, $R^4$ and $R^5$ are each independently selected from the group consisting of a hydrogen atom, a halogen atom, a hydroxy group, an amino group, a $C_1$-$C_4$ alkyl or haloalkyl group, a $C_1$-$C_4$ alkoxy or haloalkoxy group, and a nitrile group,
and the at least one primary intermediate comprises a compound of the formula (5)



(5)

wherein $R^6$ and $R^7$ are the same or different and are selected from the group consisting of a hydrogen atom, a $C_1$ to $C_4$ alkyl group, a $C_2$ to $C_4$ hydroxyalkyl group, a benzyl group or a phenyl group, and $R^8$ is selected from the group consisting of a hydrogen atom, a $C_1$ to $C_4$ alkyl group, or a $C_2$ to $C_4$ hydroxyalkyl group, or the physiologically tolerated, water-soluble salts thereof.

5. (original) The system for dyeing hair according to Claim 4 wherein the at least one coupler comprises a compound selected from the group consisting of N-phenyl-benzene-1, 3-diamine, 4-methoxyphenyl-(3-amino-phenyl)-amine and 3-methoxyphenyl-(3-amino-phenyl)-amine and the at least one primary intermediate comprises 2-(4, 5-diamino-pyrazol-1-yl)-ethanol.

6. (original) The system for dyeing hair according to Claim 4 wherein the at least one coupler comprises a compound of formula (1) wherein R is a moiety of formula (2) and $R^1$, $R^2$, $R^3$, $R^4$, and $R^5$ are each a hydrogen atom, and the at least one primary intermediate comprises 2-(4,5-diaminopyrazol-1-yl)-ethanol.

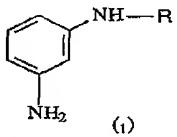
7. (original) A hair dyeing product composition for dyeing hair comprising, in a suitable carrier or vehicle, a dyeing effective amount of:

(a) at least one primary intermediate,

(b) at least one coupler; and

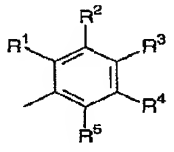
(c) at least one oxidizing agent;

wherein the at least one coupler comprises a coupler of formula (1):

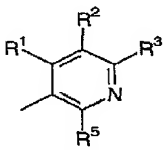


(1)

wherein R is a moiety selected from formulae (2), (3) or (4)



(2)



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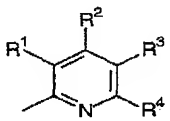
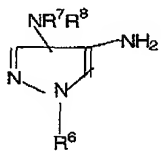


(4)

wherein $R^1$, $R^2$, $R^3$, $R^4$ and $R^5$ are each independently selected from the group consisting of a hydrogen atom, a halogen atom, a hydroxy group, an amino group, a $C_1$-$C_4$ alkyl or haloalkyl group, a $C_1$-$C_4$ alkoxy or haloalkoxy group, and a nitrile group, and the at least one primary intermediate is a compound of the formula (5)



(5)

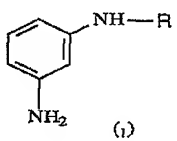
wherein $R^6$ and $R^7$ are the same or different and are selected from the group consisting of a hydrogen atom, a $C_1$ to $C_4$ alkyl group, a $C_2$ to $C_4$ hydroxyalkyl group, a benzyl group or a phenyl group, and $R^8$ is selected from the group consisting of a hydrogen atom, a $C_1$ to $C_4$ alkyl group, or a $C_2$ to $C_4$ hydroxyalkyl group, or the physiologically tolerated, water-soluble salts thereof.

8. (original) The hair dyeing product composition of Claim 7 wherein the at least one coupler comprises a compound selected from the group consisting of N-phenyl-benzene-1, 3-diamine, 4-methoxyphenyl-(3-amino-phenyl)-amine and 3-methoxyphenyl-(3-amino-phenyl)-amine and the at least one primary intermediate comprises 2-(4, 5-diamino-pyrazol-1-yl)-ethanol.

9. (original) The hair dyeing product composition of Claim 7 wherein the at least one coupler comprises a compound of formula (1) wherein R is a moiety of formula (2) and $R^1$, $R^2$, $R^3$, $R^4$, and $R^5$ are each a hydrogen atom, and the at least one primary intermediate comprises 2-(4,5-diaminopyrazol-1-yl)-ethanol.

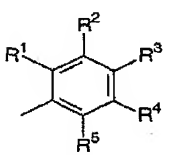
10. (original) A hair dye composition comprising, in a suitable carrier or vehicle, an effective hair dyeing amount of:

(a) at least one coupler of formula (1):

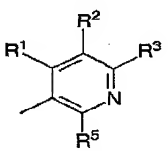



(1)

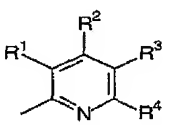
wherein R is a moiety selected from formulae (2), (3) or (4)




(2)



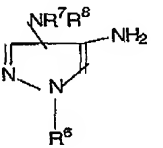

(3)




(4)

wherein $R^1$, $R^2$, $R^3$, $R^4$ and $R^5$ are each independently selected from the group consisting of a hydrogen atom, a halogen atom, a hydroxy group, an amino group, a $C_1$-$C_4$ alkyl or haloalkyl group, a $C_1$-$C_4$ alkoxy or haloalkoxy group, and a nitrile group, and

(b) at least one primary intermediate of the formula (5)



(5)

wherein $R^6$ and $R^7$ are the same or different and are selected from the group consisting of a hydrogen atom, a $C_1$ to $C_4$ alkyl group, a $C_2$ to $C_4$ hydroxyalkyl group, a benzyl group or a phenyl group, and $R^8$ is selected from the group consisting of a hydrogen atom, a $C_1$ to $C_4$ alkyl group, or a $C_2$ to $C_4$ hydroxyalkyl group, or the physiologically tolerated, water-soluble salts thereof.

11. (original) The hair dye composition according to Claim 10 wherein the at least one coupler comprises a compound selected from the group consisting of N-phenyl-benzene-1, 3-diamine, 4-methoxyphenyl-(3-amino-phenyl)-amine and 3-methoxyphenyl-(3-amino-phenyl)-amine and the at least one primary intermediate comprises 2-(4, 5-diamino-pyrazol-1-yl)-ethanol.

12. (original) The hair dye composition according to Claim 10 wherein the at least one coupler comprises a compound of formula (1) wherein R is a moiety of formula (2) and $R^1$, $R^2$, $R^3$, $R^4$ and $R^5$ are each a hydrogen atom, and the at least one primary intermediate comprises 2-(4,5-diaminopyrazol-1-yl)-ethanol.

13. (original) A process for dyeing hair comprising applying a dyeing effective amount of a hair dyeing product composition of Claim 7 to the hair; permitting the composition to contact the hair for a period of time effective to dye the hair, and then rinsing the hair dyeing product from the hair.

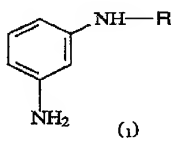
14. (original) The process according to Claim 13 wherein the at least one coupler comprises a compound selected from the group consisting of N-phenyl-benzene-1, 3-diamine, 4-methoxyphenyl-(3-amino-phenyl)-amine and 3-methoxyphenyl-(3-amino-phenyl)-amine and the at least one primary intermediate comprises 2-(4, 5-diamino-pyrazol-1-yl)-ethanol.

15. (original) The process according to Claim 13 wherein the at least one coupler comprises a compound of formula (1) wherein R is a moiety of formula (2) and $R^1$, $R^2$, $R^3$, $R^4$ and $R^5$ are each a hydrogen atom, and the at least one primary intermediate comprises 2-(4,5-diaminopyrazol-1-yl)-ethanol.

16. (original) The process for dyeing hair comprising forming a hair dye product composition by mixing a hair dyeing composition as defined in claim 10 and a developer composition, applying to the hair an amount of the hair dye product composition effective to dye the hair, permitting the hair dye product composition to contact the hair for a period of time effective to dye the hair, and removing the hair dye product composition from the hair.

17. (original) The process for dyeing hair according to claim 16, wherein the at least one coupler comprises a compound selected from the group consisting of N-phenyl-benzene-1, 3-diamine, 4-methoxyphenyl-(3-amino-phenyl)-amine and 3-methoxyphenyl-(3-amino-phenyl)-amine and the at least one primary intermediate comprises 2-(4, 5-diamino-pyrazol-1-yl)-ethanol.

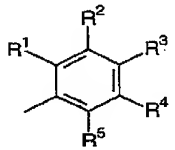
18. (original) The process for dyeing hair according to claim 16, wherein the at least one coupler comprises a compound of formula (1)




(1)

wherein R is a moiety of formula (2)

and $R^1$, $R^2$, $R^3$, $R^4$ and $R^5$ are each a hydrogen atom, and the at least one primary intermediate comprises 2-(4, 5-diaminopyrazol-1-yl)-ethanol.




(2)